WHAT IS CLAIMED IS:

1. A method for evaluating transmitted signals of a probe system, the probe system including a probe element deflectable from a rest position, comprising:

generating the transmitted signals by the probe element, the transmitted signals including a switch-on signal during a deflection of the probe element out of the rest position;

receiving the transmitted signals and interference signals by a receiver unit;

generating information signals from the signals received in the receiving step;

forming a reference signal by interlinking the information signals with the interference signals; and

comparing the transmitted signals and the interference signals received in the receiving step to the reference signal.

2. The method according to claim 1, wherein the reference signal is formed in the forming step by interlinking the information signals with the interference signals in at least one of an additive process and a subtractive process.

3. The method according to claim 2, wherein the interlinking of the information signals and the interference signals includes a mean value generation.

4. The method according to claim 3, wherein the mean value generation is performed by a voltage divider.

5. The method according to claim 1, wherein the interlinking of the information signals and the interference signals includes linking the information signals to an effective value of the interference signals.

6. The method according to claim 5, further comprising forming the effective value of the interference signals in accordance with an envelope of the interference signals.

7. The method according to claim 1, wherein the interlinking of the information signals and the interference signals includes forming an effective value of the information signals in accordance with an envelope of the signals received in the receiving step.

8. The method according to claim 6, wherein a capacitor circuit is arranged to form at least one of the effective value of the interference signals and an effective value of the information signals.

9. The method according to claim 1, wherein the reference signal is formed in the forming step by at least one of a digital circuit, a programmable logic module and a microprocessor.

10. The method according to claim 1, further comprising differentiating the signals received in the receiving step by time prior to the comparing step.

11. The method according to claim 10, wherein the signals received in the receiving step are differentiated in the differentiating step prior to the reference signal forming step.

12. The method according to claim 10, further comprising generating information signals from the differentiated received signals;

wherein the reference signal is formed in the forming step by interlinking the information signals with the interference signals.

13. The method according to claim 10, further comprising evaluating signal edges of the differentiated received signals having a positive slope and signal edges of the differentiated received signals having a negative slope by comparison with a reference signal to determine a position of the signal edges.

14. The method according to claim 1, wherein at least one of the transmitted signals and the switch-on signals include substantially square-wave signal pulses.

15. The method according to claim 1, wherein the transmitted signals are generated in the generating step by generating a sequence of signal packets, each signal packet including a start signal and a stop signal, the switch-on signal between the start signal and the stop signal during deflection of the probe element from the rest position.

16. The method according to claim 13, wherein the transmitted signals are generated in the generating step by generating a sequence of signal packets, each signal packet including a start signal and a stop signal, the switch-on signal between the start signal and the stop signal during deflection of the probe element from the rest position, the method further comprising ascertaining occurrence of the start signal, the stop signal and the switch-on signal in accordance with the position of ascending and descending signal edges of the transmitted signals.

17. The method according to claim 1, wherein the transmitted signals include electromagnetic signals.

18. The method according to claim 1, wherein the transmitted signals include infrared signals.

19. The method according to claim 1, further comprising further processing transmitted signals received in the receiving step that exceed a signal threshold predefined in accordance with the reference signal.

20. The method according to claim 1, further comprising evaluating the transmitted signals received in the receiving step to determine a position of edges of the transmitted

signals following the comparing step performed at a plurality of sampling locations arranged in temporal succession.

21. The method according to claim 20, wherein the sampling locations are arrange in accordance with a periodic sampling signal, a frequency of which is greater than a signal rate of the transmitted signals.

22. The method according to claim 20, wherein the evaluating step is performed by at least one of a semiconductor memory, a shift register, a digital circuit, a microprocessor and a programmable logic module.

23. The method according to claim 10, further comprising, after the differentiating step, processing and evaluating in separate electric circuits, descending and ascending edges of the transmitted signals received in the receiving step.

24. A system for analyzing received signals in a probe system, the probe system including a measuring probe having a probe element deflectable from a rest position, the measuring probe configured to generate transmitted signals as a function of deflection of the probe element, comprising:

a receiver unit configured to receive the received signals, including the transmitted signals and interference signals;

an arrangement configured to generate information signals from the received signals;

an arrangement configured to interlink the information signals with the interference signals to form a reference signal; and

an arrangement configured to compare the received signals to the reference signal.

25. The system according to claim 24, wherein the arrangement configured to interlink the information signals

with the interference signals is configured to interlink the information signals with the interference signals at least one additively and subtractively.

26. The system according to claim 24, wherein the interlink includes mean value generation.

27. The system according to claim 24, wherein the arrangement configured to interlink the information signals with the interference signals is configured to interlink an effective value of the information signals to an effective value of the interference signals.

28. The system according to claim 27, wherein the effective value of the information signals corresponds to peak values of the received signals.

29. The system according to claim 27, wherein the effective value of the interference signals corresponds to an envelope of the interference signals.

30. The system according to claim 24, further comprising a differentiator configured to differentiate the received signals by time, the differentiator connected an input of the arrangement configured to compare the received signals to the reference signal.

31. The system according to claim 30, wherein the differentiator is connected to an input of the arrangement configured to interlink the information signals with the interference signals, the arrangement configured to interlink the information signals with the interference signals configured to interlink differentiated received signals.

32. The system according to claim 24, wherein the receiver unit is configured to receive electromagnetic transmitted signals of the measuring probe, the system further

comprising an arrangement configured to convert the electromagnetic received signals into electric signals.

33. The system according to claim 32, wherein the electromagnetic transmitted signals include infrared signals.

34. The system according to claim 32, wherein the arrangement configured to convert the electromagnetic received signals into electric signals includes an optoelectronic component.

35. The system according to claim 32, further comprising an analog circuit configured to process and analyze the received signals connected to an output of the arrangement configured to convert the electromagnetic received signals into electric signals.

36. The system according to claim 32, further comprising a digital circuit configured to process and analyze the received signals connected to an output of the arrangement configured to convert the electromagnetic received signals into electric signals.

37. The system according to claim 36, wherein the digital circuit includes at least one of a programmable logic module and a microprocessor.

38. The system according to claim 24, further comprising an arrangement configured to determine a position of edges of the received signals arranged downstream from the arrangement configured to compare the received signals to the reference signal.

39. The system according to claim 38, wherein the arrangement configured to determine the position of edges of the received signals includes at least one of a shift register, a microprocessor and a programmable logic module.

40. A method for evaluating transmitted signals of a probe system, the probe system including a probe element deflectable from a rest position, comprising:

generating the transmitted signals by the probe element, the transmitted signals including a switch-on signal during deflection of the probe element from the rest position;

receiving the transmitted signals and interference signals by a receiving unit;

differentiating the received signals by time; and

after the differentiating step, comparing the received signals, including the transmitted signals and the interference signals, to a reference signal.

41. The method according to claim 40, wherein the transmitted signals include substantially square-wave signal pulses.

42. The method according to claim 40, wherein the transmitted signals include a sequence of signal packets, each signal packet including a start signal and a stop signal, the switch-on signal between the start signal and the stop signal during deflection of the probe element from the rest position.

43. The method according to claim 40, further comprising:

determining a position of signal edges by differentiation of the received signals; and

evaluating signal edges having a positive slop and signal edges having a negative slope by comparison with a reference value.

44. The method according to claim 43, further comprising ascertaining occurrence of the start signal and the stop signal by determining a temporal position of ascending and descending signal edges.

45. The method according to claim 40, wherein the transmitted signals include electromagnetic signals.

46. The method according to claim 45, wherein the electromagnetic signals include infrared signals.

47. The method according to claim 40, further comprising forming the reference signal in accordance with the received signals.

48. The method according to claim 47, wherein the reference signal is formed in the reference signal forming step in accordance with interlinking the differentiated received signals and the interference signal superposed on the transmitted signals.

49. The method according to claim 48, wherein the interlinking of the differentiated received signals includes interlinking the differentiated received signals to an effective value of the interference signals.

50. The method according to claim 48, further comprising generating information signals in accordance with the interlinked differentiated received signals and interference signals.

51. The method according to claim 50, wherein the information signals include components of the differentiated signals made up of differentiated transmitted signals.

52. The method according to claim 49, further comprising forming at least one of the effective value of the interference signals by a capacitor circuit and an effective value of information signals by a capacitor circuit.

53. The method according to claim 48, wherein the interlinking of the differentiated signals and the

interference signal to produce the reference signal includes mean value generation performed by a voltage divider.

54. The method according to claim 47, wherein the reference signal is formed in the forming step by at least one of a digital circuit and a programmable logic module.

55. The method according to claim 47, further comprising further evaluating differentiated received signals that exceed a signal threshold predefined in accordance with the received signal.

56. The method according to claim 47, further comprising, after the comparing step, evaluating the differentiated received signals at a plurality of sampling locations arranged in temporal succession to determine a position of edges of the received signals.

57. The method according to claim 56, wherein the sampling locations are arranged in accordance with a periodic sampling signal having a frequency greater than a signal rate of the transmitted signals.

58. The method according to claim 56, wherein the evaluating step is performed in accordance with at least one of a semiconductor memory, a shift register, a digital circuit, a microprocessor and a programmable logic module.

59. The method according to claim 40, further comprising processing and analyzing in separate electric circuits descending and ascending signal edges of the received signals following the differentiating of the received signals.

60. A system for analyzing received signals, comprising:

a probe system including a measuring probe and a receiver unit, the measuring probe including a probe element that is deflectable from a rest position, the measuring probe

configured to generate transmitted signals in accordance with deflection of the probe element, the receiver unit including an arrangement configured to receive the received signals, the received signals including transmitted signals and interference signals, the receiver unit including an arrangement configured to compare the received signals to a reference signal, the receiver unit including a differentiator connected to an input of the arrangement configured to compare the received signals to the reference signal, the differentiator configured to differentiate the received signals by time.

61. The system according to claim 60, wherein the receiver unit is configured to receive electromagnetic received signals of the measuring probe, the receiver unit including an arrangement configured to convert the electromagnetic received signals into electric signals.

62. The system according to claim 61, wherein the electromagnetic received signals include infrared signals.

63. The system according to claim 61, wherein the arrangement configured to convert the electromagnetic signals into electric signals includes an optoelectronic component.

64. The system according to claim 61, further comprising an analog circuit configured to process and analyze the received signals connected to an output of the arrangement configured to convert the electromagnetic signals into electric signals.

65. The system according to claim 61, further comprising a digital circuit configured to process and analyze the received signals connected to an output of the arrangement configured to convert the electromagnetic signals into electric signals.

66. The system according to claim 65, wherein the digital circuit includes at least one of a programmable logic module and a microprocessor.

67. The system according to claim 60, further comprising an arrangement configured to interlink the differentiated received signals and interference signals superposed on the received signal to form the reference signal.

68. The system according to claim 67, wherein the interlink includes mean value generation.

69. The system according to claim 60, further comprising an arrangement configured to determine a position of edges of the received signals arranged downstream from the arrangement configured to compare the received signals to the reference signal.

70. The system according to claim 69, wherein the arrangement configured to determine the position of edges of the received signals includes at least one of a shift register, a microprocessor and a programmable logic module.